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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/001,742

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Patrick J. Bohrer

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EXAMINER

BAYARD, DJENANE M

ART UNIT

PAPER NUMBER

2141

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/001,742

Applicant(s)

BOHRER ET AL.

Examiner

Djenane M Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 8-12 and 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,711,691 to Howard et al.

a. As per claims 1, 8 and 15, Howard et al teaches a method for managing workload distribution in a multiple processor cluster system to conserve energy, comprising the steps of: classifying persistent states and connections within said cluster system according to an activity referencing said persistent states and connections (See col. 4, lines 27-50, The power management processing monitors the workload of the computer system or the processors within the computer system. The workload reflects how busy the computer system or the processors therein are in processing useful tasks. Once the workload is obtained, it is determined whether the workload is heavy. When it is determined that the workload is heavy, then one or more processors of the computer system are activated); receiving a request to modify a workload of said cluster system; determining a minimum number of processors in said cluster system for executing said modified workload while maintaining said persistent states and connections (See col. 4,

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lines 50-67, when it is determined that the monitored workload is not heavy, it is determined whether the monitored workload is light. When it is determined that the monitored workload is light, then one or more processors of the computer system are deactivated); determining a workload distribution within said minimum number of processors that satisfies said modified workload while maintaining said persistent states and connections (See col. 5, lines 12-35, the processor deactivation processing 30 initially determines whether there is more than one active processor. When it is determined that there is more than one active processor, the processor deactivation processing places one or more (but not all) of the processors in a sleep mode. The number of the processors being placed in the sleep mode is based on the workload.); and modifying an operation mode of a selected processor in said processors of said cluster system to conserve energy while satisfying said modified workload while maintaining said persistent states and connections (See col. 4, lines 2-14, The hierarchical nature of the power management provided by the invention has various levels of power management such that power consumption of the computer system is dependent upon the amount of work placed on the processing resources of the computer system. Another aspect of the invention pertains to deterministic handshaking provided between a power manager and one or more controller units).

- b. As per claims 2, 9 and 16, Howard et al teaches the claimed invention as described above. Furthermore, Howard et al teaches migrating persistent states and connections within said cluster system to effect said workload distribution (See col. 4, lines 4-50)

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c. As per claims 3, 10 and 17, Howard et al teaches the claimed invention as described above. Furthermore, Howard et al teaches wherein said operation mode of said selected processor is modified by setting said selected processor to an off mode (See col. 8, lines 18-31).

d. As per claims 4, 11 and 18, Howard et al teaches the claimed invention as described above. Furthermore, Howard et al teaches wherein said operation mode of said selected processor is modified by setting said selected processor to a stand-by mode (See col. 8, lines 30-67).

e. As per claims 5, 12 and 19, Howard et al teaches the claimed invention as described above. Furthermore, Howard et al teaches wherein said operation mode of said selected processor is modified by setting said selected processor to an active full power mode from an off or a stand-by mode (See col. 5, lines 12-35).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 6-7, 13-14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,711,691 to Howard et al in view of U.S. Patent No. 6,035,333 to Jeffries et al.

a. As per claim 6, 13 and 20, Howard et al teaches the claimed invention as described above. However, Howard et al teaches wherein said step of determining said workload distribution for said minimum number of processors uses a constraint based bin packing algorithm.

Jeffries et al teaches a method and system for providing congestion control in a data communication network. Furthermore, Jeffries et al teaches wherein said step of determining said workload distribution uses a constraint based bin packing algorithm (See col. 5, lines 14-32).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said step of determining said workload distribution for said minimum number of processors uses a constraint based bin packing algorithm as taught by Jeffries et al in the claimed invention of Howard et al in order to schedule or stagger those pause times within the control interval in a way which minimizes the number of stations that are paused or silent at any given time while continuing to satisfy the requirement that each station remain silent for at least its scheduled pause (See col. 5, lines 14-32).

b. As per claim 7, 14 and 21, Howard et al teaches the claimed invention as described above. However, Howard et al fails to teach wherein a particular constraint of

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said bin packing algorithm comprises minimizing a number of processes and states migrated to effect said workload distribution.

Jeffries et al teaches a method and system for providing congestion control in a data communication network. Furthermore, Jeffries et al teaches wherein a particular constraint of said bin packing algorithm comprises minimizing a number of processes and states migrated to effect said workload distribution (See col. 5, lines 14-32).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein a particular constraint of said bin packing algorithm comprises minimizing a number of processes and states migrated to effect said workload distribution as taught by Jeffries et al in the claimed invention of Howard et al in order to schedule or stagger those pause times within the control interval in a way which minimizes the number of stations that are paused or silent at any given time while continuing to satisfy the requirement that each station remain silent for at least its scheduled pause (See col. 5, lines 14-32).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,571,181 to Rakshani et al teaches a system and method for detecting a device requiring power.

U.S. Patent No. 6,085,328 to Klein et al teaches a wake up of a sleeping computer using I/O snooping and imperfect packet filtering.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

  
RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER